

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Peter deVore on May 20, 2011.

The application has been amended as follows:

Claims 13-18 are rejoined and no longer withdrawn.

13. (Currently amended) A method of tempering a bent glass sheet, comprising conveying the sheet along a predetermined path through ~~an apparatus according to claim 1-a tempering apparatus~~, and quenching the sheet with diverging jets of quench gas, the bent glass sheet being conveyed transversely to the direction of elongation of the plenums, and the diverging jets of quench gas issuing from an array of quench nozzles which is curved in at least one direction; wherein the tempering apparatus comprises means for conveying the bent glass sheet along a predetermined path through the tempering apparatus, and a pair of blastheads for quenching the bent glass sheet with jets of quench gas, the blastheads comprising upper and lower blastheads arranged in opposed relationship above and below the predetermined path, each blasthead comprising a plurality of spaced elongate plenums for supplying quench gas to an array of quench nozzles from which the jets of quench gas issue, each plenum possessing a longitudinal centerline extending along a longitudinal extent of the plenum,

each nozzle possessing an axis, each plenum bearing one or two rows of quench nozzles, successive such rows constituting the array of quench nozzles, the length of the quench nozzles exceeding their diameter, and the quench nozzles of each plenum being inclined so that the axes of some of the nozzles of each plenum are inclined to one side of the plenum relative to a vertical plane containing the longitudinal centerline of the plenum and the axes of others of the nozzles in each plenum are inclined towards an opposite side of the plenum relative to the vertical plane containing the longitudinal centerline of the plenum to provide diverging jets of quench gas, wherein each of the plenums extends transversely to the direction of conveyance of the bent glass sheet, thereby affording side access between adjacent pairs of plenums, and each array of quench nozzles is curved in at least one direction, the tempering apparatus possessing a centerline parallel to the direction of conveyance, and successive plenums of the lower blasthead are connected to each other by connecting surfaces which are positioned between and connected to the successive plenums, the connecting surfaces being inclined downwards away from the centerline.

14. (Original) A method of tempering a bent glass sheet as claimed in claim 13, comprising moving the blastheads apart to allow the sheet to enter between them, moving the blastheads towards each other for the quenching operation, and moving them apart again to allow the sheet to exit from between the blastheads.

15. (Previously Presented) A method as claimed in claim 13, wherein the bent glass sheet is elongate in one direction, comprising conveying the sheet with its

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direction of elongation perpendicular to the direction of conveyance and parallel to the direction of elongation of the plenums.

16. (Previously Presented) A method as claimed in claim 13, wherein the jets of quench gas are arranged to impinge on the glass sheet in a "domino 5" pattern.

17. (Previously Presented) A method as claimed in claim 13, wherein the toughening stresses generated in the bent and tempered glass sheet are non-uniform.

18. (Currently Amended) A production line for producing bent and tempered glass sheets, comprising a furnace for heating the glass sheets, a bending station, ~~an apparatus according to claim 1 a tempering apparatus~~, an unloading station and a means of advancing the sheets along a predetermined path along the line; wherein the tempering apparatus comprises means for conveying the bent glass sheet along a predetermined path through the tempering apparatus, and a pair of blastheads for quenching the bent glass sheet with jets of quench gas, the blastheads comprising upper and lower blastheads arranged in opposed relationship above and below the predetermined path, each blasthead comprising a plurality of spaced elongate plenums for supplying quench gas to an array of quench nozzles from which the jets of quench gas issue, each plenum possessing a longitudinal centerline extending along a longitudinal extent of the plenum, each nozzle possessing an axis, each plenum bearing one or two rows of quench nozzles, successive such rows constituting the array of quench nozzles, the length of the quench nozzles exceeding their diameter, and the quench nozzles of each plenum being inclined so that the axes of some of the nozzles of each plenum are inclined to one side of the plenum relative to a vertical plane

containing the longitudinal centerline of the plenum and the axes of others of the nozzles in each plenum are inclined towards an opposite side of the plenum relative to the vertical plane containing the longitudinal centerline of the plenum to provide diverging jets of quench gas, wherein each of the plenums extends transversely to the direction of conveyance of the bent glass sheet, thereby affording side access between adjacent pairs of plenums, and each array of quench nozzles is curved in at least one direction, the tempering apparatus possessing a centerline parallel to the direction of conveyance, and successive plenums of the lower blasthead are connected to each other by connecting surfaces which are positioned between and connected to the successive plenums, the connecting surfaces being inclined downwards away from the centerline.

2. The following is an examiner's statement of reasons for allowance: Applicant's arguments filed March 24, 2011. While the combination of FRANK, BLACK, and GORDON provides the closest prior art to the claimed invention, the combination fails to teach or suggest the quench nozzles of each plenum being inclined so that the axes of some of the nozzles of each plenum are inclined to one side of the plenum and the axes of others of the nozzles in each plenum are inclined towards an opposite side of the plenum. FRANK shows nozzles inclined such that the axes of the nozzles are all inclined towards the centerline of the apparatus. MCMASTER teaches an apparatus having nozzles with axes inclined in opposite directions, however, does not teach or suggest using the nozzles in curved plenums. Applicant convincingly points out in

pages 9-10 of the response filed March 24, 2011 that while MCMASTER is used for curved glass sheets, the plenums themselves remain straight, which is specifically shown in figure 3 and described in column 8 lines 19-22, whereas the claimed invention requires curved arrays of nozzles that extend transverse to the direction of conveyance whereas MCMASTER is parallel to the direction of travel.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CYNTHIA SZEWCZYK whose telephone number is (571)270-5130. The examiner can normally be reached on Monday through Friday 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Daniels can be reached on (571) 272-2450. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CS

/Matthew J. Daniels/
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